

Amendment to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

Claims 1-6. Canceled.

7. (Previously Presented) A method for fabricating a layered structure on a substrate, comprising:

- processing a substrate to form at least one dielectric layer on the substrate and parallel line features embedded in the dielectric layer;
- obtaining local curvature information in an area of a line feature;
- obtaining local temperature information in the area of the line feature; and
- using analytical expressions to compute local stresses in the line feature from a first contribution based on the local curvature information and a second, separate contribution based on the local temperature information wherein the analytical expressions include geometry information of the line feature, the dielectric layer, and the substrate, and material information of the line feature, the dielectric layer and the substrate.

Claims 8-15. Canceled.

16. (Original) The method as in claim 7, further comprising:

- computing a critical value for a change in temperature according to a failure criterion of the layered structure by using the analytical expressions; and

controlling a variation in temperature during fabrication to be away from the critical value.

17. (Original) The method as in claim 7, further comprising:

computing a critical value for a change in curvature according to a failure criterion of the layered structure by using the analytical expressions; and

controlling a condition during fabrication to make a change in curvature to be away from the critical value.

18. Canceled.

19. (Original) The method as in claim 7, further comprising adjusting a processing condition according to the computed local stresses.

20. (Previously Presented) A system, comprising:

a substrate holder to hold a substrate fabricated with a dielectric layer and parallel line features embedded in the dielectric layer;

a sensing module to interact with the substrate to obtain information about a temperature and curvatures of a line feature on the substrate; and

a processing module programmed with analytical expressions to compute local stresses in the line feature from a first contribution based on local curvature information in an area having the line feature and from a second, separate contribution from local temperature information of the area having the line feature, wherein the analytical expressions include geometry information of the line feature, the dielectric layer, and the

substrate, and material information of the line feature, the dielectric layer and the substrate.

Claims 21-25. Canceled.

26. (Original) The system as in claim 25, wherein the layered structure comprises a capping layer on top of embedded line features and an adjacent top layer, wherein the processing module is programmed to include effects of the capping layer in the analytical expression.

27. (Previously Presented) A method, comprising:
providing a layered structure which comprises a plurality of layers stacked over one another, wherein each layer has embedded line features;
optically obtaining information on a surface of the layered structure;
processing the optically obtained information to extract curvature information of the surface; and
applying analytical expressions to compute local stresses in a line feature from a first contribution based on extracted curvature information for an area having the line feature and from a second, separate contribution based on a local temperature at a location of the line feature.

Claims 28-31. Canceled.